



Forest Service Southwestern Region

Renewable Energy in Arizona

Briefing Paper

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Topic: The role of the Forest Service (FS) in Arizona's renewable energy siting, production, and transmission; experience, opportunities and challenges.

Background: The Southwestern Region of the Forest Service manages approximately 11.3 million acres of National Forest System (NFS) lands on six national forests in Arizona. These lands are managed for a variety of uses including recreation, wildlife, water, timber, and grazing. Development associated with renewable energy on NFS lands will pose opportunities and challenges for the agency.

FS role: Siting, transmission, and production of renewable energy on NFS lands require approval and authorization through special use permits. The permitting process involves initial and secondary screening prior to acceptance of a formal application. An accepted application is subject to environmental review pursuant to the National Environmental Policy Act (NEPA). Activities may be subject to regulation from multiple federal agencies depending on the nature of the proposal. The FS is party to several Memorandums of Understanding (MOUs) that involve cooperation on planning, siting, approval and monitoring environmental impacts of energy related activities on federal and other lands. These MOUs are intended to streamline the approval process and ensure sustainable development.

Experience to date: Forest service experience to date is very limited. There currently are no applications in process for development of renewable energy projects on NFS lands in Arizona. There are however, a few small development projects adjacent to NFS lands that require road access and/or the need to transmit power across NFS lands. The FS has received a few initial large-scale proposals for wind development that have been denied due to inconsistency with forest management plans or other law, regulation, and policy. A geothermal study on the Coconino National Forests is scheduled for FY 2010.

Known future involvement: Future involvement is likely to focus on transmission corridors necessary to move power across NFS lands from renewable generation sources to markets. The Agency is currently developing national guidance for the development of wind energy projects on NFS lands. This guidance will be similar to guidance the Bureau of Land Management (BLM) recently issued. The Forest Service will also be focused on woody biomass as an additional renewable energy source.

Involvement with other Agencies: The FS will be primarily involved with the BLM, the National Park Service (NPS), and tribal interests in Arizona. All three have significant lands adjacent to NFS lands. Projects, particularly transmission projects, will require significant coordination between agencies. The FS and BLM partner to process and administer geothermal leases on NFS and BLM lands. The agency will continue to work closely to coordinate energy management and development activities with Arizona Game and Fish Department and the United States Fish and Wildlife Service to promote the conservation of fish and wildlife and their habitats.

Opportunities and Challenges: Renewable energy development offers the opportunity to use the country's natural resources in a sustainable manner to further benefit the public. Development of a woody biomass industry to use small diameter materials from forest restoration treatments is an

important economic and environmental opportunity for rural communities. In addition, FS sites can be a showcase for alternative energy production on a smaller scale, providing conservation education to the users of the national forests.

Challenges include educating potential developers about laws and regulations governing the use of NFS lands so that the quality and feasibility of initial proposals are improved. Another challenge is to improve agency understanding of the environmental impacts of renewable development so that appropriate environmental analyses can be completed efficiently. Two high profile issues that warrant close attention in Arizona are the impacts on wildlife from wind farms and the demand on water resources from large scale solar development. Arizona is one of the most biologically diverse states in the country and adequate protections will be required for many rare plants and animals. NFS lands are one of the main sources of water in the state and increased demands have the potential to impact both social and ecological sustainability.

The FS currently lacks the resources to process applications for special use permits in a timely fashion. This is likely to continue given current agency funding.

Current forest plans in Arizona lack management direction related to renewable energy development. Five of the six forests are in the process of revising these plans but they will not be completed for another one to three years. The agency is still drafting national guidance about the development of renewable energy on NFS lands. Current experience related to renewable energy development is limited and it will take some time for the agency to build a skilled pool of individuals to manage these types of projects. This could impact timelines for projects as the agency learns. Managing the competing interests of our many stakeholders will be challenging.

The activity likely to impact NFS lands most significantly will be transmission corridor development or upgrades. The agency has significant experience with these activities. Challenges related to energy corridors will be the possible demand for new corridors across multiple forests and outside of existing rights of way, and the potential impacts of those to other values such as recreation, scenic viewsheds, cultural resources, and wildlife. Access roads required to administer new corridor permits create law enforcement issues around unmanaged recreation use of these roads.

There is currently a lack of infrastructure to process woody biomass from restoration treatments. The economic climate is difficult for the development of industry to support the use of biomass.

Potential Solutions: Solutions to the challenges above include developing a strategy to educate energy developers about the policies, requirements, and procedures associated with renewable energy applications. These are likely to vary to some degree by agency. Existing MOUs related to planning, coordination, and siting should alleviate many of the issues related to dealing with multiple land owners.

Development and adoption of scientifically sound guidelines to conserve plants and wildlife and their habitats during energy development and management activities will be crucial to obtaining public support. Continuing research will be needed. An adaptive management approach should be used to improve as we gain more experience with renewable energy development.

Many challenges could be addressed in some manner through creation of a strategic plan for the development of renewable energy resources and strong coordination among the various stakeholders and landowners. A long term view paired with coordinated deliberate action will benefit the state and other interested parties in the long run.